

Insecutor Inscitiae Menstruus

Vol. IX

JULY-SEPTEMBER, 1921

Nos. 7-9

THE GENUS HAEMAGOGUS WILLISTON

(Diptera, Culicidæ)

By HARRISON G. DYAR

The genus *Haemagogus* proves to have been inadequately treated in the monograph (Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., iv, 1917). It was not realized that the ordinary criteria of structure and coloration were not diagnostic for these forms. As a matter of fact, the females of many of the species are practically indistinguishable, whereas the male genitalia show marked characters. This fact was lost sight of in the monograph, because the species were classified first by the females and then a male of each supposed species was mounted for examination and figuring. The result seemed complete; but really several species passed unnoticed by this method. The disadvantage resulting from more careful examination is that some of the older species cannot be recognized at present, being described from females and no male being at hand from the type localities.

The genus divides into two subgenera, *Haemagogus* proper (= *Cacomyia* Coquillett), in which the claws of the female are simple and the palpi of the male short, and the more generalized *Stegoconops* Lutz, in which the claws of the female are toothed and the palpi of the male long. The genus is obviously specialized off from *Aedes*, and in *Stegoconops*, the claw and palpal structures usual in *Aedes* are retained.

In Panama, the only locality from which abundant material is at hand, five *Haemagogus* occur, one *equinus* of general distribution, two, *lucifer* and *chalcospilans*, inhabiting the Atlantic coast, and two, *argyromeris* and *gladiator*, inhabiting

the interior and Pacific watershed. The four latter species are known only from Panama.

TABLE OF SPECIES BY THE MALE GENITALIA

Stem of claspette thick, but nearly uniform.

Stem of claspette slightly hairy; filament broadly expanded, leaf-like, strongly ribbed.....*equinus* Theobald

Stem of claspette densely hirsute; filament narrowly expanded, thick on one edge, delicately ribbed.....*panarchys* Dyar

Stem of claspette slender, crooked and variously modified.

Clasper long, spine small.

Scales on side piece mostly broad, straight.

Claspette angled and more or less enlarged near middle, but the tip slender.

Claspette filament narrow, blade-like, thickened on one edge*regalis* Dyar & Knab

Claspette filament triangularly expanded, ribbed at base*iridicolor* Dyar

Claspette slightly enlarged at tip, the filament small, arising from an angle of tip.

lucifer Howard, Dyar & Knab

Claspette strongly thickened at tip, club-shaped, the filament broadly expanded, furcate.

Claspette filament with the arms short and equal; spine of clasper nearly terminal.....*gladiator* Dyar

Claspette filament with the arms long, unequal, one slender and pointed; spine of clasper on one side of tip.....*argyromeris* Dyar & Ludlow

Scales on side piece irregular, mixed with crooked spines,

chalcospilans Dyar

Clasper shorter, the spine one-third its length....*janthinomys* Dyar

Clasper short, the spine one-half its length.*albomaculatus* Theobald

Haemagogus (Stegoconops) equinus Theobald.

Haemagogus equinus Theobald, The Ent., xxxvi, 282, 1903.

Aedes philosophicus Dyar & Knab, Journ. N. Y. Ent. Soc., xiv, 190, 1906.

Aedes affirmatus Dyar & Knab, Proc. Biol. Soc. Wash., xix, 164, 1906.

H. equinus was described from Jamaica from two females with toothed claws. No male has been described; but as *H. philosophicus* D. & K. ranges from Mexico to Trinidad, and is the only species with toothed claws in the female known

in this latitude, it is probable that the Jamaican form is the same. The type locality of *philosophicus* may be restricted to Tehuantepec, Oaxaca, Mexico, Knab's breeding number 295, the type being a male, figured in the monograph, plate 23, figure 162. The type of *affirmatus* may be restricted to the locality Salina Cruz, Oaxaca, Mexico. No male is at hand from this locality; but as it is not far distant from the former, this synonymy, previously established, may be confirmed.

Typical males are before me from Miraflores, Canal Zone, Panama, May 9, 1908 (A. H. Jennings), and Tobago Island, West Indies, July, 1905 (A. Busck). Females with toothed claws also are before me from Trinidad, B. W. I. (F. W. Urich and A. Busck). Intermediate localities indicated by females with toothed claws are: Port Limon, Costa Rica (F. Knab); Las Loras, near Puntarenas, Costa Rica (F. Knab); San José, Costa Rica (F. Knab); Paramaribo, Surinam (J. Bonne-Wepster); Georgetown, British Guiana, "Schepmoed," January 29, 1906 (E. D. Rowland); Rupenuni, British Guiana (K. S. Wise).

The larva is described in the monograph as *equinus* (vol. iv, 873, 1917), Knab's breeding numbers 295 and 318, but no figure was published.

The larvæ occur in the water in holes in trees.

Haemagogus (Stegoconops) capricornii Lutz.

Haemagogus capricornii Lutz in Bourroul, Mosq. do Brasil, 66, 1904.

Described from Brazil from females only. The male is unknown, and I have none from anywhere near the locality. It is highly probable that this is a synonym of *H. equinus*, since species with as wide a range as that commonly extend also to Brazil. However, in the absence of the male the name is temporarily held apart.

In the monograph we recognize *capricornii* from the Canal Zone and Trinidad and state that the male has short palpi, figuring the hypopygium of the supposed male on plate 24, figure 165. The male figured is from Trinidad (F. W. Urich, breeding number 17), but there exists no reason for associat-

ing with it females with toothed claws as we have done. Urich's No. 17 contains only males; but his Nos. 21 and 22 are females with simple claws. Our females of *capricornii* are really *equinus*, and our supposed males of *capricornii* are referred to below under the caption *Haemagogus janthinomys*, new species. It is common for more than one species of *Haemagogus* to occur in the same locality, even occurring together in the same culture. This was obviously the case in Mr. Urich's experience and it should not have caused us to make the serious mistakes which are incorporated in the monograph.

Haemagogus (Stegoconops) panarchys, new species.

Proboscis of the male very long, thickened on the basal half, the apical half thin and curved; palpi slender, about three-fourths as long as the proboscis; antennæ plumose, the last two joints long and slender. Claws of the female toothed on front and middle legs; second marginal cell shorter than the second posterior cell. Abdomen projecting ventrally on seventh segment, most markedly in the male. Coloration, head and mesonotum brilliant blue-green; sides of head and thorax bluish silvery; abdomen violet blue, with silvery patches at the bases of most of the segments; venter with the basal thirds of the segments silver. Legs blue-black, the femora white beneath toward base. Wings smoky tinged, the scales black.

Male hypopygium. Side piece three times as long as wide, conical, a small rounded hirsute lobe at extreme base within; inwardly toward tip a group of large lanceolate scales, containing a row of narrow lanceolate scales with setaform bases. Clasper short, slender, curved, with a terminal spine which is three-fourths as long as the clasper itself. Claspette greatly thickened, curved, uniform except for a notch at outer third; dorsal aspect densely hirsute to middle, then a bare space, again hirsute, with a tuft of longer hairs at tip; filament inserted below this terminal tuft, moderately elliptical, strongly thickened on the lower side, the other side finely ribbed on its basal part.

Type, male, paratypes, male and three females, No. 24331, U. S. Nat. Mus.; El Salado, Guayaquil, Ecuador (F. Campos R.). The specimens bear Prof. Campos's numbers, 24, 25, 26, 69, 70, No. 24 determined by Knab as *albomaculatus* (but the claws are toothed!), No. 26 determined by Knab as *equinus*, and No. 69 determined by Dyar as *equinus*.

Close to *equinus* Theob., but the palpi of the male somewhat longer. The hypopygium is very distinct.

The larva was not sent in.

Haemagogus (Haemagogus) regalis Dyar & Knab.

Haemagogus regalis Dyar & Knab, Proc. Biol. Soc. Wash., xix, 167, 1906.

Stegoconops albomaculatus Howard, Dyar & Knab (not Theobald), Mosq. No. & Cent. Am. & W. I., ii, pl. 23, fig. 163, 1912.

Described from Sonsonate, Salvador, San Juan, Trinidad, Cacao, Guatemala, and Livingstone, Guatemala. The type may be restricted to the first named locality, Knab's breeding number 330. In the monograph, we sunk the name under *albomaculatus* Theobald and cited a wide distribution, no wider, however, than in the original conception. As a matter of fact the species is a local one, and is before me only from Sonsonate, Salvador. The specimen from Trinidad is *janthinomys*, while the two from Guatemala are females and cannot be placed. The male hypopygium is figured in the monograph, as cited above.

The larva was confused by us with that of *argyromeris* D. & L. (*albomaculatus* H., D. & K., not Theobald), but did not serve as the subject of figure or description in the monograph.

Secondary abdominal hairs long and sparsely stellate (3 or 4 in a tuft); air-tube short and thick, rounded at tip, the pecten reaching distinctly beyond the middle, followed by a three-haired tuft; lateral comb of the eighth segment of many scales in a patch, each scale large and thick, smooth on the sides, very minutely feathered at the tip; anal segment with the plate reaching well toward the ventral line, spinose on posterior edge; upper head-hair single, lower double.

From Knab's breeding number 330, "larvæ from water in cocoanut husks, August 30, 1905."

Haemagogus (Haemagogus) iridicolor, new species.

Head and prothoracic lobes dark violet or blue, changing with the incidence of the light; mesonotum green or blue; abdomen dark violet, in some lights with a coppery reflection, with basal segmental silvery white lateral spots, which form a continuous band on the basal segments, no silvery marks dorsally; legs dark violet to bronzy brown, the femora silvery below; wing scales dark; second marginal cell very slightly longer than the second posterior cell; claws simple in the female. Palpi of male about one-sixth of the long proboscis.

Male hypopygium. Side piece about three times as long as wide, the tip rounded; base somewhat swollen inwardly, with a large reticulated area bearing minute setæ; at the side of this a small setose rounded lobe; scales on the outer half of the inner margin, broad, dense, with pointed tips, all straight; a small tuft of setæ at the tip within. Clasper moderate, slender, swollen a little before tip, the spine thickened and appendiculate, inserted nearly its own length before the tip. Claspette with slender sinuate stem, bearing three setæ near base; incurved, bent, thence thinner and with slight transverse wrinkles; filament broadly inserted, broadly circularly triangular, irregularly ribbed, the ribs broad at base, narrower outwardly, becoming oblique and finally transverse at the outer margin. Tenth sternite narrow, long, with revolute margins, the tip minutely dentate, with many teeth. Aedoeagus conical. No ninth tergites.

Types, two males, paratypes, 8 males and 7 females, No. 24332, U. S. Nat. Mus.; Higuito, San Mateo, Costa Rica (Pablo Schild); "in bamboo joints," Alajuela, Costa Rica, May 26, 1921 (A. Alfaro).

The larva figured in the monograph as "*Stegoconops lucifer*" (vol. ii, pl. 77, 1912), and described as "*Haemagogus splendens*" (vol. iv, 866, 1917) probably belongs here. Mr. Knab brought living specimens from Costa Rica, from which he

made his drawing. These came from Port Limon, but the adults are unfortunately all females.

Larvæ from cacao husks and an old kerosene tin.

Haemagogus (Haemagogus) lucifer Howard, Dyar & Knab.

Stegoconops lucifer Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., ii, pl. 23, fig. 164, 1913.

While the monograph was in press, we were informed by Mr. F. W. Edwards that the types of *Haemagogus splendens* Will. had setæ upon the postnotum. We supposed, therefore, that *Haemagogus* must be a Sabethid genus, and we therefore used the new name *lucifer* for the specimens before us that we were treating as *Haemagogus splendens*. This name appears in the volume of plates, although we were able to suppress it in the final treatment of the genus, which did not appear until five years later. The name *lucifer*, therefore, depends upon the published figure, which was made from a specimen from Tabernilla, Canal Zone, Panama (A. H. Jennings, breeding number 399), and this locality becomes the type locality.

The species is locally abundant on the Atlantic coast of Panama, but does not extend far inland. Only three localities are before me, from Tabernilla, many specimens collected by Jennings and Busck; Lion Hill, Canal Zone, Panama (A. Busck); Caldera Island, Porto Bello Bay, Panama, May 23 and August 12, 1908 (A. H. Jennings).

The larva figured as of this species in the monograph (vol. ii, pl. 77, 1912) does not belong to it.

The larva (Jennings, No. 392) has the secondary abdominal hairs strongly stellate (tufts of 7 to 9); skin glabrous; lateral comb of the eighth segment of many scales in a rather small triangular patch, the single scale thick, long, smooth on the sides, and only obsoletely feathered at the tip; air tube moderately short, tapered at tip, the pecten not reaching the middle, of long spines, in a slightly curved row, followed by a two-haired tuft; anal segment scarcely half encircled by the plate, which has an irregular edge; a small triangular plate beside the ventral brush.

Larvæ from water in tree-holes and bamboo-joints. Mr. Jennings has six records from tree-holes (Nos. 249, 261, 331, 335, 374, 295) and four from bamboo traps (392, 398, 399, 461); Mr. Busck has four records from tree-holes (127, 128, 173, 174), two from bamboo (166, 200), one from a wooden box near a house (201), one from a tree stump (149), and one from a hole in a banana stem (155).

Haemagogus (Haemagogus) gladiator, new species.

Head and mesonotum green, abdomen blue or violet, pleuræ, sides of head and lateral abdominal spots silvery; dorsally on the abdomen with distinct silvery bands at the bases of the segments; legs dark violet to black, the femora silvery beneath. Second marginal cell longer than the second posterior cell. Claws of the female simple. Palpi of male about one-fifth as long as the proboscis.

Hypopygium. Side piece three times as long as wide, the basal granular area small, with one seta in it; a slight setose prominence at extreme base; scales on the outer half of inner margin both long and narrow and short and broad; all symmetrical and not mixed with spines; a group of short setæ at tip. Clasper moderate, swollen apically, the spine still terminal, although the enlargement is eccentric. Claspette with slender sinuate stem, enlarged into a disk at tip, minutely pilose and with one seta on the margin; filament reflexed, cleft, the two points similar and about equal in length, both short. Tenth sternites narrow, large, the tip thickened and hooked, minutely dentate. Ninth tergites undeveloped.

Type, male, paratype, female, No. 24340, U. S. Nat. Mus.; Corozal, Canal Zone, Panama, November 30, 1909 (A. H. Jennings, breeding number 39).

Larvæ from "tree hole near Kraft's house." Head hairs, upper single, lower in twos; body glabrous; short abdominal hairs distinctly stellate (tufts of 5 to 7); comb of eighth segment of many scales in a triangular patch, single scale long, thick and rounded, smooth on the sides with minutely feathered tip; air tube short with conical tip, the pecten not reaching

the middle, followed by a four-haired tuft; anal segment about three-fourths encircled by the plate.

Haemagogus (Haemagogus) argyromeris Dyar & Ludlow.

Haemagogus argyromeris Dyar & Ludlow, The Military Surgeon, xlviii, 679, 1921.

This species is abundant and the only common *Haemagogus* with simple claws in the female native to the Pacific side of the Isthmus of Panama. Since the building of the canal, it has extended its range toward the Atlantic, late specimens being taken as far as Gatun. The following localities are before me, the year of capture in this case being unusually important: Taboga Island, Panama, 1908 (A. H. Jennings); Panama City, Panama, 1908 (A. H. Jennings); Corozal, Canal Zone, Panama, November, 1918 (J. Zetek); Miraflores, Canal Zone, Panama, May 9, 1908 (A. H. Jennings); Paraiso, Canal Zone, Panama, April, 1918 (J. Zetek); La Pita, Canal Zone, Panama, June 20, 1921 (through Dr. Ludlow); Empire, Canal Zone, Panama, May 18, 1908 (A. H. Jennings); Pedro Miguel, Canal Zone, Panama, August 9, 1919 (J. Zetek); Ancon, Canal Zone, Panama, July 17, 1908 (A. H. Jennings); Rio Chagres, Panama, May 20, 1907 (A. Busck); Las Cascadas, Canal Zone, Panama, May, 1907 (A. Busck); Spillway, Gatun, Canal Zone, Panama, August 23, 1912 (J. Zetek); Gatun, Canal Zone, Panama, December, 1913 (H. R. Trask).

The male hypopygium is peculiar in the structure of the claspette, the stem of which is enlarged into a flattened club, on which the filament is reversed, cleft, forming two retrose points.

The larva is described in the monograph under the name "*albomaculatus*" (vol. iv, 870, 1917) and figured (vol. ii, pl. 126, fig. 439), specimens being before me Jennings, breeding number 38, Dunn, breeding number C-48, and Zetek, breeding number 1057.

Jennings' specimens were bred from tree-holes, Dunn's from "a flower-pot in a garden at Corozal," while Mr. Zetek's notes confine themselves to the entry "*Haemagogus*."

Further records are at hand, though not in every case tested by males, as follows: Tree-holes, Jennings, Nos. 27, 28, 38, 288, 210, 303, 374, 393, 394; Busck, No. 102; Zetek, No. 666; miscellaneous receptacles, "trunk of large fallen tree" (Jennings, 55), "from container" (Jennings, 118), "from old kettle" (Jennings, 48), "food material from some point on line south of Paraiso" (Jennings, 74), "wooden box" (Busck, 201), "old machinery" (Busck, 221), "pot-holes on Taboga Island" (Busck, Nos. 182, 206). On two occasions Jennings took the larvæ from a stream (Nos. 379, 387); but he noted that "undoubtedly" they had been emptied there from some container, as a washerwoman was at work at the stream. Less typical are three occurrences noted by Jennings: "Paraiso, from cut, with *Anopheles* and *Uranotaenia*" (Nos. 30, 31), "Ancon Boulevard, no oil" (No. 52) and "pool" (No. 111). These were evidently ground pools, and while No. 111 is a female and need not detain us as it may be *chalcospilans* of normal occurrence, Nos. 30 and 52 contain males which are undoubtedly *argyromeris*. We have therefore the occasional occurrence in ground pools when these are of artificial production.

Haemagogus (Haemagogus) chalcospilans, new species.

Head and prothoracic lobes dark violet, mesonotum green, abdomen dark violet, with the usual play of colors; scales of pleuræ silvery white; abdomen with lateral silvery patches, conjoined toward base and forming more or less complete dorsal bands posteriorly. Wing scales dark, the second marginal cell longer than the second posterior cell. Claws of the female simple; palpi of the male about one-sixth the length of the proboscis.

Hypopygium. Side pieces three times as long as wide, rounded at tip; basal area swollen within, with a large minutely pilose area bearing very small setæ from tubercular bases; a small setose rounded lobe at extreme base; scales on distal inner area of side piece crooked, enlarged on one side, mixed with narrow crooked spines and at the tip a tuft of curved setæ; a second tuft of smaller setæ at the tip out-

wardly. Clasper moderate, scarcely enlarged at the base, the tip curved a little; spine terminal, not more than one-sixth as long as the clasper. Claspette slender, sinuate with three setæ at its base, widening outwardly to a single seta; filament apparently continuous with the stem, greatly enlarged and irregularly lobed, forming a long wide conical point at one side and a small fish-tail at the other. Tenth sternites narrow, moderate, the tip with a little rounded knob and group of very fine teeth. Aedoeagus conical. Ninth tergites undeveloped.

Type, male, paratypes, male and two females, No. 24334, U. S. Nat. Mus.; Caldera Island, Porto Bello Bay, Panama, March 22, 1908 (A. H. Jennings, breeding number 247). Also the same locality, February 14, 1909 (A. H. Jennings, breeding No. 490).

The species is not confined to the Atlantic coast, specimens having been taken at Panama City, Panama, December 2, 1907 (A. H. Jennings, No. 48); Ancon, Canal Zone, Panama, December 2, 1907 (A. H. Jennings, No. 43), and Ancon, Canal Zone, Panama, August 15, 1918 (collector unknown, through Dr. C. S. Ludlow).

Mr. Jennings bred the larvæ in three instances (Jennings, Nos. 163, 247, 490) from salt pools in rocks near the sea-coast, and once from an old kettle (Jennings, No. 48). The data with the specimens lately taken at Ancon are unknown to me; but Jennings bred a single male at Ancon (Jennings, No. 43) "from a spring." Jennings also bred what is probably this species from a salt pool (No. 246), from a brackish pool (No. 262), and from a pool beside a stream with *Anopheles eiseni*; but in these latter cases the rearings are all females, or the male has been broken. A single male (Jennings, No. 261) "from open tree-hole beside lower course of reservoir stream" is probably not an exception to the ground-pool habit.

The larva (Jennings, No. 163) has the head subcircular, mouth pointed, brushes moderate only; antennæ small, smooth, with a single hair near the middle; eyes small, round, black. Skin granular-glabrous; secondary hair tufts long, weakly stellate (3 to 4 hairs), stout and distinct; lateral comb of the

eighth segment of many scales in a large triangular patch, four or five scales deep; basal scales small, becoming larger progressively posteriorly, the terminal scales longest, smooth on the sides, with expanded, minutely feathered tips, all small and weakly colored; air-tube about one-and-a-half times as long as wide, tapered on the outer half; pecten not reaching the middle, of closely set spines in a slightly oblique row; anal segment three-fourths encircled by the plate, a little expanded terminally, the anal gills short and bud-shaped.

In the monograph, we confused this species under *splendens* Will. We were puzzled by the unexpected and apparently sporadic occurrence of the larva in rock-holes, and were not able to give any explanation of it. It did not occur to us that a distinct species was involved, for at the time of writing the monograph we could not divorce ourselves from the idea that species of mosquitoes must necessarily be separable on characters of adult coloration. That the obvious larval differences between all these forms did not obtrude themselves upon our attention I can only attribute to the fact that the Jennings collections were never fully worked over, owing to Mr. Knab's preoccupation and illness.

Haemagogus (Haemagogus) janthinomys, new species.

Head blue, mesonotum green, abdomen dark purple, with the usual play of colors; pleura silvery scaled; abdominal lateral spots silvery, joined on the basal segments, with more or less silver dorsally also on the posterior segments; legs dark violet to black, the femora white and silvery below toward base. Male proboscis thick on the basal half, the apical portion curved; palpi about one-fifth its length. Claws of female simple.

The male hypopygium is figured as "*capricornii*," plate 24, figure 165 of the monograph.

Types, two males, paratypes, 4 males and 3 females, No. 24335, U. S. Nat. Mus.; Trinidad, B. W. I. (F. W. Urich, breeding Nos. 17, 21, 22, B1, B3); June, 1905 (A. Busck).

The larva is described in the monograph under the name

"*capricornii*" (vol. iv, 877, 1917) and also figured (pl. 126, fig. 438, 1912).

The larvæ were bred from tree-holes.

Haemagogus (Haemagogus) albomaculatus Theobald.

Haemagogus albomaculatus Theobald, Mon. Culic., iii, 308, 1903.

Described from a single female with simple claws from British Guiana, probably from the Pomeroon River. In the monograph, we sink *regalis* to this species, and record it from Central America, Panama, and Trinidad. It will be necessary to reverse this synonymy because *regalis*, (Sonsonate, Salvador) is one species, Panama specimens (Gatun, Canal Zone) are another (*argyromeris* D. & L.), and Trinidad specimens represent a third species (*janthinomys* Dyar). Fortunately specimens are before me from British Guiana (near Georgetown, taken by H. W. B. Moore) representing a fourth species, and to these the name *albomaculatus* may be restricted. It is possible that Theobald's type represents still another species; but this can probably never be established from the female alone, and until that is done, the present restriction will hold.

Male hypopygium. Side piece conical, about three times as long as wide; basal area small, granular, without setæ, but a single hair basally; a group of long hairs at extreme base, arranged in a line; inner area almost to the base with long thin scales, mixed with stout setæ, all straight; apex without a hair-tuft. Clasper slender, small, curved, the spine terminal and about half as long as the clasper itself. Claspette moderately slender, curved, with a seta at base, the basal half minutely pilose; strongly chitinized; tip expanded, obliquely truncate, the filament small, pointed, lying on the truncation and projecting beyond its end. Tenth sternites stout, with rounded recurved tips.

The larva was not sent in by Mr. Moore.

Haemagogus (Haemagogus) splendens Williston.

Haemagogus splendens Williston, Trans. Ent. Soc. Lond., 272, 1896.

Described from eight specimens, one said to be a male, from the island of St. Vincent, West Indies. The male characters, however, have never been made known, and therefore the species must remain for the present unrecognized. It is possibly the same as one of the mainland forms; but as the species from Trinidad and British Guiana are different, this cannot be assumed. The specialized species of *Haemagogus* with simple claws in the female and short palpi in the male seem to be all of very restricted distribution. In the monograph we gave *splendens* a very extended distribution, Central America, Panama, Trinidad, St. Vincent and Brazil, which must now be canceled.

ILLUSTRATIONS OF CERTAIN MOSQUITOES

(*Diptera, Culicidæ*)

BY HARRISON G. DYAR

Culex (Choeroporpa) pasadaemon Dyar.

Culex (Choeroporpa) pasadaemon Dyar, Ins. Ins. Mens., ix, 100, 1921.

The male hypopygium, side piece, and basal organs are illustrated in Plate II, figure 1.

Culex (Choeroporpa) merodaemon Dyar.

Culex (Choeroporpa) merodaemon Dyar, Ins. Ins. Mens., ix, 100, 1921.

The basal parts of the hypopygium are illustrated in Plate II, figure 2.

Culex (Choeroporpa) dysmathes Dyar & Ludlow.

Culex (Choeroporpa) dysmathes Dyar & Ludlow, Ins. Ins. Mens., ix, 47, 1921.

The basal parts of the hypopygium are illustrated in Plate II, figure 3.

Culex (Choeroporpa) holoneus Dyar.

Culex (Choeroporpa) holoneus Dyar, Ins. Ins. Mens., ix, 35, 1921.

The basal parts of the hypopygium are illustrated in Plate II, figure 4.